







The Photographer
Alison Dias is a
multimedia and
classroom technology
specialist with UTM's
Information &
Instructional Technology
Services team. Dias is
often found—camera in
hand—capturing familiar
faces on campus.

VIEWFINDER

What's the Buzz? Alison Dias

Alison Dias captured beekeeper Don Forster harvesting late summer honey from hives atop the third-floor green roof at UTM's Instructional Centre. In 2018, the campus welcomed two additional hives to the original three installed the previous year to encourage pollinators on campus. The rooftop apiary is abuzz with about 100,000 Buckfast bees, selected for their docile nature and resistance to disease. True to form, the UTM bees have been very busy—Forster harvested 315 kg of honey last summer and another 275 kg in 2018. The sweet bounty is used by residence food services in Chef Sandeep Kachroo's cooking classes and is periodically available for sale through UTM's Hospitality & Retail Services office.

3359 Mississauga Rd. Mississauga, Ontario Canada L5L 1C6

Executive Edito

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Design and Production

Cover Photography

Canadian Publications Mail





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A WORK OF WIND

Harnessing art's power to address the urgent issues of our time



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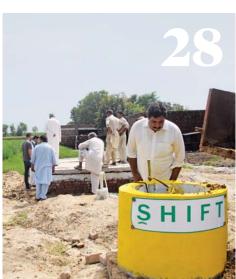
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FALL 2018



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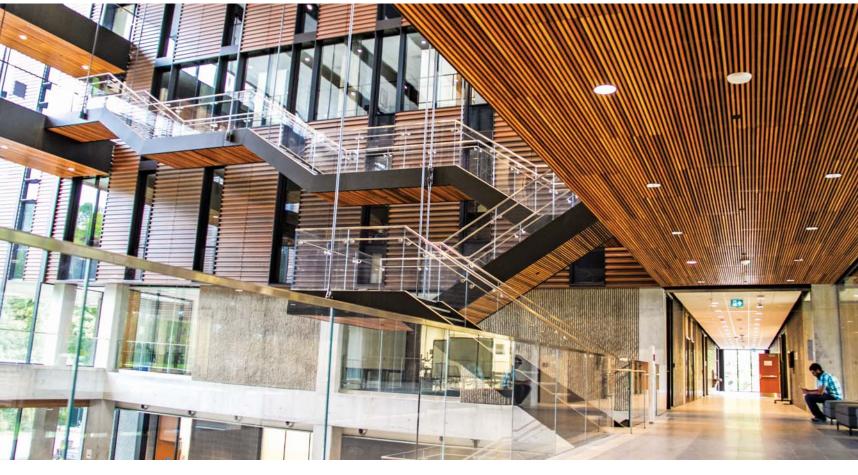




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Campus News



Northern Renaissance A bit of old, lots of new in new North.



UTM BUILDS

Two years after breaking ground, UTM's newest building opened its doors in September. The bright and airy

News of The North

1

six-storey building designed by Perkins+Will and constructed by Stuart Olson stands on the site of the original two-storey North building erected when Erindale College was founded in 1967.

Outside the 210 000-square-foot structure is clad in sparkling glass terracotta tiles and striated concrete—

Outside, the 210,000-square-foot structure is clad in sparkling glass, terracotta tiles and striated concrete — a design nod to its predecessor. Inside, there are 29 new classrooms, adding 37,000-square-feet of new high-tech instructional space to the campus, as well as new dedicated space for digital humanities research and the Centre for South Asian Civilizations.

"We are excited to celebrate this brand-new facility which will accommodate our growth and complement the stunning architecture at UTM," says Stepanka Elias, director of operations, design and construction in UTM's Department of Facilities, Management & Planning.

Students seeking a place to work will find 500 new study spaces in quiet alcoves, meeting rooms and study carrels as well as hundreds of lockers to stash gear between classes and plenty of locations to charge devices.

In keeping with the university's dedication to environmental sustainability, the building is heated and cooled using UTM's campus district energy system, which increases energy efficiency. A rainwater reuse system will supply water for irrigation and other uses. The building design also features five green roof spaces and special glass designed to deter bird strikes. Stay tuned for the official opening ceremony and announcement of the building's name.



2

UTM IN THE COMMUNITY

BACK TO NATURE

Where the wild things are

Mississauga children are getting back to nature with a little help from UTM's Centre for Urban Environments (CUE) and The Riverwood Conservancy. Launched in September, the Junior Naturalists Club provides students in Grades 3 to 8 with hands-on educational activities designed to get them excited about the natural world.

The club meets three times a month to hike in the woods, build bee hotels, tag monarch butterflies and take behind-the-scenes tours of natural collections at the Royal Ontario Museum. It's also a learning experience for UTM students and staff who volunteer with the group, gaining important experience in communicating science to the community.

Marc Johnson, associate professor of biology and CUE director, co-leads meetings with wife and early childhood educator Reagan. "Eighty per cent of Canadians live in cities or urbanized areas," he says. "Many children have lost touch with the natural world. This program will teach kids about the natural world around them and help them learn to value nature."

Funding for club materials is provided by a grant and through private donations. Learn more at theriverwoodconservancy.org

3

PEDAL POWER

RIDING TO DEFEAT DUCHENNE Max's Big Fellowship

It's a long way from Hamilton to Ottawa, especially if you're getting there by cargo bike, but that's the preferred mode of transportation for Super Dad Andrew Sedmihradsky, global mobility coordinator with UTM's International Education Centre. Since 2015, Sedmihradsky and seven-year-old son, Max, have completed an annual 600-kilometre bike ride to raise funds and awareness for Duchenne muscular dystrophy, a progressive and eventually fatal genetic disorder affecting one in every 5,000 boys, including young Max.

To date, their efforts have raised over \$140,000 to support Duchenne research through London, Ontario-based charity, Jesse's Journey. Joined by Max's little sister, Isla, the Sedmihradskys took to the trail again this past June, ending up on Parliament Hill in time for Father's Day and a meeting with Prime Minister Justin Trudeau.

Max's Big Ride has many supporters, including cancer researcher and head of UTM's Centre for Medicinal Chemistry Professor Patrick Gunning. Gunning and his team have partnered with Max's Big Ride and Jesse's Journey to establish a graduate fellowship funded with proceeds from the 2018 ride. The fellowship recipient will evaluate the effectiveness of the group's STAT3 and HDAC inhibitors in animal models of Duchenne. The group hopes to find ways of not

only preventing the muscle atrophy that characterizes the disease, but also reversing existing damage so that those confined to a wheel-chair can regain their mobility.

"STAT3 and HDAC are implicated as key drivers of this disease, and we have the tools to block these proteins," says Gunning. "We are very optimistic about the success of this approach, and are hopeful that it may improve the lives of many Duchenne patients like Max."

For Sedmihradsky, the prospect of a potential therapy so close to home is one of the most exciting things he's experienced since launching Max's Big Ride. "It really speaks to what it's like to work in a place like this, to know there are people in this very building [the Davis Building] who have the power to change Max's life. It's unbelievable!"

To learn more and support Max's Big Ride, visit maxsbigride.com.







4

CHANGEMAKERS

A SEAT AT THE TABLE UTM student tapped to advise PMO

Not many university students can claim a direct line to Canada's prime minister, but undergraduate student Habon Ali has managed to do just that. In June, the fourth-year biology and environmental studies student was appointed to the Prime Minister's Youth Advisory Council. Over the next two years, Ali will join 20 other appointees at meetings across the country to advise Justin Trudeau on issues such as mental health, reconciliation with Indigenous Peoples and economic growth. The group will also create Canada's first-ever national youth policy.

The Somali-Canadian student has long been involved in health and social justice issues in her community of Rexdale in Toronto's west end. Born to parents who came to Canada as refugees, Ali credits her early exposure to the challenges faced by immigrant families as the inspiration for her interest in community advocacy.

"Cultural and language barriers impacted the health of the people around me, and it was frustrating to see," says Ali, who was often called to serve as interpreter when her relatives visited the doctor. "My volunteering was directed by issues that I saw in my community and wondering what I could do about it."

Ali previously volunteered as a youth advocate with Toronto Public Health's Youth Health Action Network and Toronto-based social change think-tank The Mosaic Institute. Ali is also involved in campus activities, including UTM's Habitat for Humanity chapter and the Muslim and Somali students' associations. She says she is excited to make a contribution at the federal level.

"As a young, Black Muslim female, as a first-generation Canadian from a big city and as a university student, it is important to be at the table sharing my lived experiences and perspectives," she says. "Every issue is a youth issue. If it doesn't affect us now, it will affect us later."

5

ABE@UTM

A PASSION FOR SCIENCE AND DISCOVERY

Introducing high school students to biotechnology

An innovative partnership between UTM, biotechnology leader Amgen Canada and the Amgen Foundation is bringing hands-on science into high schools across southern Ontario. Now in its second year, the Amgen Biotech Experience — or ABE@UTM — provides resources to introduce scientific discovery to students in Grades 11 and 12.

UTM is the first Canadian institution to participate in the international program which helps students to develop scientific investigation skills and explore careers in biotechnology. With three years of funding from the Amgen Foundation, UTM Professors Voula Kanelis of chemical and physical sciences and Steven Chatfield of biology lead the program supported by site coordinator and lab technician Kristina Han. Their team provides technical training to high school educators along with course materials and fully-stocked kits of equipment, including a mini centrifuge, incubator and micropipettors, to participating classes at no cost.

"This experience helps teachers give hands-on biotechnology experience to their students," says Kanelis. "For students, it's the chance to participate in meaningful science and explore the steps involved in creating biotechnology medicines in a professional lab."

This year, the program will reach more than 1,300 students in 28 schools across Ontario.

"We are proud to collaborate with UTM on this unique initiative that brings together scientists and educators with a passion for sharing the joy of science and discovery," says Amgen Canada vice-president and general manager Francesco Di Marco. "The Amgen Biotech Experience allows students to explore the steps involved in creating biotechnology therapies. Aligned with the core biology curriculum, the program supports the larger goals of fostering scientific literacy and a life-long love of science."



Campus News

6

SOCIAL MEDIA

UTM in the moment

At UTM, there is something amazing happening around every corner. Here are a few of the moments that caught our eye:

Follow UTM on:

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Erindale Hall after a summer rain.
#excellenceliveshere



Arjun Yadav captured spring graduates headed to Convocation Hall. #UofTGrad18 #utmproud @arjsun



Gosling Alert! UTM's first clutch of fluffy gossies has hatched! #utmcute



Checking out the Research Greenhouse
Open House! Very cool research happening
on climate change, tree 'memories' + more!



Portaging through the Davis Building via @biologyutm



This photo of Wilson Pond by Rishabh Dev was featured by BlogTO where it garnered 6,100 likes on Instagram. #utmfamous @rishab3857



Women's soccer is taking flight! #UTMEagles #UTMHomecoming2018

ILLUSTRATIONS: (OPPOSITE PAGE) TAYLOR KRISTAN

UTMetrics

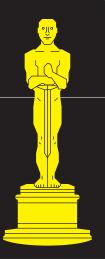
Lights, Camera, Action!

5

The number of Emmy Award winners spotted on campus



• Julianna Margulies, Topher Grace, Ethan Hawke, Alexis Bledel, Steven Soderbergh



Academy Award winners on campus



• William Hurt, Matt Damon, Steven Soderbergh



@nicole_danesi — Guys. Anyone else notice that the *Handmaid's Tale* filmed at UTM!? That means RORY GILMORE was on campus.



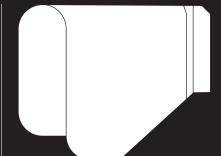
*WITHIN 2018



- The 2016 "Bring Home the Honeycomb" commercial featured a basketball-playing bee shooting hoops in Gym A
- Intact Insurance dropped a car from a crane outside the Terrence Donnelly Health Sciences Complex



Average annual film requests



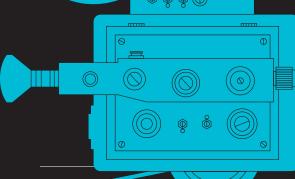
TV series

- The Handmaid's Tale
- · The Boys
- The Hot Zone
- Heroes Reborn
- The Girlfriend Experience



UTM in the movies

- **Downsizing:** See the UTM library transported to Norway in Matt Damon's 2017 sci-fi satire
- Clara: Suits star Patrick Adams and co-star Troian Bellisario were on campus to film the 2018 feature about an astrophysicist





Movies shot on campus in 2018



New mentorship program connects students with alumni living abroad

When a friend recommended that she apply to U of T Mississauga's mentorship program in 2017, Jovana Vukcevic wasn't sure what to expect. "It seemed like a good opportunity, but I worried about being matched with the right person."

Then a fourth-year undergraduate biology student, Vukcevic was acutely aware of her pending graduation. Fearing the limbo that sometimes comes between education and career, she was keen to line up her next big thing, but she had no idea what that might be.

"At the time I was interested in law school, but I also hadn't ruled out med school or even business," laughs Vukcevic. "And I had no idea if I wanted to study at home or abroad, or if I should do it now or wait a year and travel."

So she accepted her friend's advice and applied to be matched with a UTM alumnus.

Since 1999, UTM's mentorship program has paired more than 254 mentors with students seeking guidance, advice and support on everything from continuing education and career to personal

Snapshot



aspirations like where to live and travel. Staff in alumni relations and the Centre for Student Engagement work together to review the applications at the start of each academic year, and match mentors and mentees on the basis of field of study, career aspirations and personal interests. Alumni volunteers are asked to commit to a minimum of three meetings over the course of the academic year.

"We look at the whole picture," says Sue Prior, UTM's manager of alumni development. A student applicant with a lifelong love of rowing, for example, might connect with an alumnus who also participated in the sport.

Last year, the program evolved to include another, previously untapped opportunity: UTM alumni living across Canada and abroad.

"We have alumni all over the world who have a special bond with UTM," says Prior. "Thanks to technologies like email and Skype, we can now stay in touch with these graduates in a meaningful way while offering a unique perspective to our students."

Vukcevic was one of the first UTM students to benefit from remote mentoring when she was matched with Gene Bajorinas (B.Sc., 1983), vice-president of operations with Novian Health in Chicago, Illinois. The two were introduced last November and have been keeping in touch by email and text ever since.

"We spent a lot of time in the beginning getting to know each other's backgrounds and aspirations. I wanted to understand the things Jovana had questions about and how I might lend a hand," says Bajorinas. Their wide-ranging conversations included how Bajorinas decided to pursue an MBA after his undergraduate science degree, the best time to write admission exams and what to consider when choosing a graduate or professional program. A frequent business traveller, Bajorinas even weighed in on the best neighbourhoods to live in cities like Vancouver, where Vukcevic was considering applying for graduate studies.

"He told me it was OK to not know what I wanted to do next," says Vukcevic, who graduated with a bachelor of science degree in 2018. "It made me feel so much better to hear that from someone with so much knowledge and experience."

Proving that the benefits of volunteering go both ways, Bajorinas says he has also gained a great deal from the experience. "Influencing and guiding someone's career path and offering sage advice when it's needed—it's a great way to give back."

A full year after their first contact, the pair's connection remains strong, despite the fact that they've never met face-to-face. "Distance was never a barrier," says Vukcevic. "I'm lucky to have a mentor who made me feel so comfortable."

In fact, she credits Bajorinas with helping her realize what she wants to do next: "I'm applying to med school this fall," she says proudly. And then? "Maybe a trip to Europe." —Christine Ward



The molecular biology student answered a volunteer call from a student group on the downtown St. George campus and within a few weeks Sam was headed for Honduras. There he spent a week with a Global Brigades medical team helping to provide health care to a developing rural community. The international non-profit organization works with students to support ongoing initiatives in developing communities.

"I had a whole new perspective on life," Sam says. "Seeing people who are not as privileged as we are in Canada was really eye-opening and inspired me to contribute more."

Back in Canada, Sam connected with fellow students Jennifer Kam (B.Sc., 2018), Alyssa Caterina (BA, 2018) and others to found UTM's first Global Brigades chapter. Since its 2016 launch, the UTM group has achieved official club status and recruited more than 500 new members to support activities year-round.

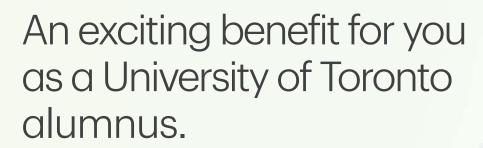
During the annual brigade to Honduras, student volunteers manage a free mobile health clinic. "The community there doesn't have access to health-care professionals, so Global Brigades provides free health care," Kam says. Volunteers assist dental teams, work with pharmacists to fill drug prescriptions, fit patients with new glasses and shadow doctors in the clinics. "I hadn't done anything like it before," Sam says. "We got to see everything, not just one aspect of the program. You're not just a bystander."

"Our club is active during the school year and also during the summer," Sam notes. "If we're not abroad, we're helping at home." Over the past year, the UTM group raised about \$9,000 to send supplies to Honduras, train local health-care workers and cover costs for those who must travel for more serious medical help. "The project brings

together people with different interests to work together for a common goal, and really builds on the community aspect of UTM," Caterina says.

With their undergraduate years behind them, the founders hope to apply the lessons they learned for future careers. Kam is considering a career in pediatric nursing; Caterina is enrolled in a public relations certificate program; and Sam began a master's program in medical genomics on the downtown St.George campus. Sam plans on a career in medicine, but his experience with Global Brigades also has him thinking about the bigger picture. "I would like to go into policy, which could change things for many more people," he says. "I would like to see how my work could benefit the international community." -Blake Eligh

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The Future of Health is





Five researchers share how their work is shaping the future of human health







Engineering a bespoke gut microbe to treat inflammatory bowel disease



A single article shared by a colleague was all it took for **David McMillen** to think of a new way to treat inflammatory bowel disease (IBD).

But then again, interdisciplinary thinking comes naturally to McMillen, an associate professor of chemical and physical sciences at UTM. After earning a PhD in aerospace engineering, he completed his postdoctoral work in a synthetic biology lab and transitioned from conventional to biological engineering. Today, he leads a team of six researchers who are combining their exper-

tise in regenerative medicine, gut stem cell research, biological engineering and advanced genetic analysis to create a bespoke gut microbe that can sense bowel inflammation and release medicine as needed.

"Engineering is an applied field, motivated by trying to build useful objects," says McMillen. "We're engineering in a context where a lot of the basic science is still being discovered and that's very exciting."

One in 150 Canadians live with IBD, an umbrella term for Crohn's disease and ulcerative colitis. The condition causes the lining of the intestinal wall to become inflamed, resulting in debilitating and sometimes life-threatening symptoms that include weight loss, stomach pain, fatigue and diarrhea. Current treatments include corticosteroids, biologics and immunomodulatory drugs that reduce inflammation. Unfortunately, these treatments lower the activity of the immune system in the whole body, making it harder to combat infections and some cancers.

The gut microbiome, the vast collective communities of bacteria and microbes that live in the intestine, is thought to play a major role in the disease. While the exact cause of IBD is still unknown, a major contributing factor was discovered by one of McMillen's collaborators, an immunologist who discovered that gut bacteria promote the production of a molecule called muramyl dipeptide (MDP) that acts as a signal to intestinal stem cells, encouraging them to generate new cells to repair the gut lining.

Building on that insight, McMillen and his colleagues are engineering a bespoke bacterial system that can sense the level of MDP present in the intestine and produce more when required. "To work, the system needs a sensor, a molecule producer and a feedback system to regulate the release of the right amount of the therapeutic molecule," says McMillen. "Too little would be ineffective, and an excess might encourage too much growth which could lead to potential problems." Swallowing a bespoke gut microbe would provide targeted treatment directly in the intestine. When consumed, the bacterium would find its way to the intestinal tract and treat IBD directly at the source, promoting healing in the cells that are hit the hardest. "The key advantage of using engineered bacteria over a drug is that they work like an active agent that can go in and make simple decisions, sensing and responding based on what they encounter," says McMillen.



David McMillen

FALL 2018

"We're engineering in a context where a lot of the basic science is still being discovered and that's very exciting."

There are five other U of T researchers on the multidisciplinary team: using DNA sequencing to identify molecules that could work as inflammation sensors; studying how to integrate a synthetic gene network into a synthetic microbe system; investigating molecule production and how to engineer bacteria to produce high levels of MDP; and understanding the underlying biology of intestinal cells in more detail using "gut on a chip" and animal models.

Translating this applied research project to a drug is years away. If the team can successfully develop a new responsive gut microbe therapy, it will then need to be tested in clinical trials and approved by Health Canada before it becomes available. In the meantime, McMillen sees shorter-term payoffs: "If we can get the sensors working, that could lead to interesting ways to diagnose or characterize IBD in ways that are not currently possible," he says. "For example, we could include the microbe in a yogurt drink and look for a colour change in bowel movements that would indicate the presence of inflammation.

"The project has put me in contact with a whole group of people I wouldn't be working with so closely otherwise," says McMillen. "It's exhilarating to move from proof of principle demonstrations to trying to solve an actual problem because the field has developed to the point where that's now within reach."

The project is one of 19 supported by Medicine by Design, a sevenyear initiative that began in 2015 to support transformative research in regenerative medicine and cell therapy. The initiative is funded, in part, through a \$114-million grant from the federal government's Canada First Research Excellence Fund. —Jane Langille





Timing is everything: Encouraging more women to donate cord blood



Nicola Lacetera

Umbilical cord blood is a rich source of blood-forming stem cells that can be banked and used later to treat life-threatening diseases such as leukemia and lymphoma. But only a tiny percentage of parents donate cord blood—in the vast majority of cases, it is discarded as medical waste.

Nicola Lacetera, an associate professor of strategic management with UTM's Department of Management, applies economic principles to study the motivations affecting blood, organ and tissue donations. He

recently collaborated with colleagues at the Università Bocconi and Buzzi Children's Hospital in Milan, Italy, and Johns Hopkins University in Baltimore. They conducted the first randomized controlled trial

examining whether informational and behavioural nudges could increase cord blood donations among 367 expectant women at an obstetrics clinic in Milan

The decision to donate cord blood is made during pregnancy when parents tend to be experiencing an overload of information, emotions and choices. "We modified the timing when women were informed and provided them with a non-binding opportunity to indicate their decision for donating cord blood," says Lacetera.

Only 2.3 per cent of women in the no-intervention group donated cord blood. However, donation rates were much higher in groups that received information and prompts to make a donation decision. Later timing and "repeat asks" had a positive impact—in the group that received information and prompts during the third trimester, 10 per cent donated, compared to 8.1 per cent in the group that received those interventions during the first trimester. Repeat interventions of information and prompts during both the first and third trimesters achieved the best results, a donation rate of 17 per cent.

"Awareness is important, but we found that the timing of the awareness mattered more," says Lacetera. "With each pregnancy, there is only one opportunity to donate cord blood. If you miss it, you miss it." —Jane Langille

Empowering older adults to understand health information will help them better manage their health as they age.







Making digital health information accessible to older adults



Older adults are active information hunters when it comes to their health. But they tend to be fearful about looking for answers online. That's a problem, given that more and more medical information is becoming digitally available.

Cosmin Munteanu is an assistant professor with UTM's Institute of Communication, Culture, Information & Technology at the University of Toronto Mississauga and co-director of the Technologies for Aging Gracefully Lab (TAGlab) at the University of Toronto. His research

focuses on using technology to address common social and psychological issues faced by people as they age.

Munteanu's research team is designing apps to make digital health information more accessible.

One app is human-powered: the user adds a text, audio or video "sticky note" to a passage they do not understand, and sends the query through the app to a trusted person like a friend or family member for interpretation. A second app uses artificial intelligence to automate explanations of complicated text. The apps could help users find the answers they seek while maintaining privacy and independence.



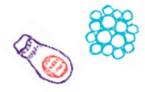
FALL 2018

"Hearing and seeing well helps people maintain social connections."

A recent computer science graduate working with Munteanu in the TAGlab conducted ethnographic research to refine the design and test prototypes of the second app among small groups of older adults. Munteanu recently led a larger trial among 30 seniors to test two different formats for automated information. "We are trying to determine the sweet spot between completely translating an entire page or providing explanations for keywords on the side," he says.

The researchers are evaluating the two different formats, noting the number of repeat queries, errors and time efficiency, as well as subjective measures including user confidence and whether they like the experience.

Empowering older adults to understand health information will help them better manage their health as they age. "We don't want to replace text. We want people to be able to access the original, so they still feel connected," says Munteanu. "Over time, we hope they will need less assistance." —Jane Langille





Investigating the link between hearing and healthy aging



It can start gradually—a misheard word or the nagging feeling that everyone is mumbling. Then the television volume is up a little higher than it used to be and high pitch sounds—like the voices of grandchildren—become muted. These are typical signs of hearing loss, a phenomenon that can creep up on any of us as we age.

"Hearing loss is the second most common impairment, after vision loss. It increases with age and affects most older adults, but many people wait a decade or more before being assessed," says psychology

professor **Kathleen Pichora-Fuller**. At UTM's Human Communication Laboratory, Pichora-Fuller studies the link between auditory and cognitive processing during communication in everyday life, with a particular focus on aging populations. "This delay in being assessed can result in negative consequences, including social withdrawal and increased risk of dementia," she says. There can be physical repercussions, too. "People with hearing loss are more likely to suffer falls."

Pichora-Fuller hopes to discover why people experiencing hearing loss take that important first step to seek help. She and a former graduate researcher have launched a Canada-wide study to examine why people decide to get their first hearing aids and what may have prevented them from doing so earlier. Her research partner, Gurjit Singh, is now a senior research audiologist and program manager at international hearing aid producer Phonak. Funded by Phonak's sister company, Connect Hearing, the national study will collect data from



3,000 Canadians over the age of 50 who have not previously used hearing aids. "We hope to gain better understanding of key factors such as stigma and social support from family and friends that influence the decision to seek help and begin treatment for hearing problems" she says.

According to Pichora-Fuller, glasses and hearing aids can be important tools to keeping healthy as we age. "Hearing and seeing well helps people maintain social connections, which in turn increases opportunities for physical and mental activities—staying physically, mentally and socially active is what keeps us healthy," she says. "We'd like to find ways to overcome stigma attached to aging and loss of vision and hearing because this is a quality-of-life issue."

The industry-partnered project is a spin-off of other research on the links between sensory and cognitive aging that Pichora-Fuller is conducting as part of two national CIHR-funded studies, the *Canadian Longitudinal Study of Aging* and the *Canadian Consortium on Neurodegeneration in Aging*. —Blake Eligh

Using wearable health technology to improve performance



From the steps we take to the calories we consume,

many of us track personal data through wearable gadgets and smartphone apps. We know how many hours we slept and how many minutes we spent in meditation, but what do those numbers really tell us about our overall health? A new study launched at UTM this fall will investigate how the data we collect today can be used to predict and improve our health and performance in the future.

"Dark data is data with no useful purpose," says Jayson Parker, associate director of UTM's Master of

Biotechnology program and associate professor of biology, teaching stream. "We collect biometric information but what are we doing with it? A better understanding of that information could help us to make better choices for our health."

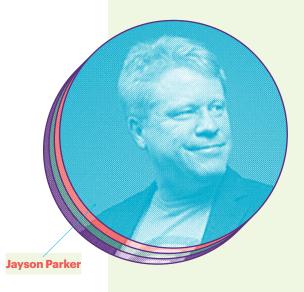
Parker wants to shine a light on our dark health data by creating a new way to aggregate and analyze this information. In the pilot phase of Parker's study, volunteers wear devices to collect lifestyle and biometric information—including sleep patterns, heart rate and blood pressure—over a 36-hour period. They also undergo cognitive and other tests to measure the peaks and valleys of performance throughout the day.

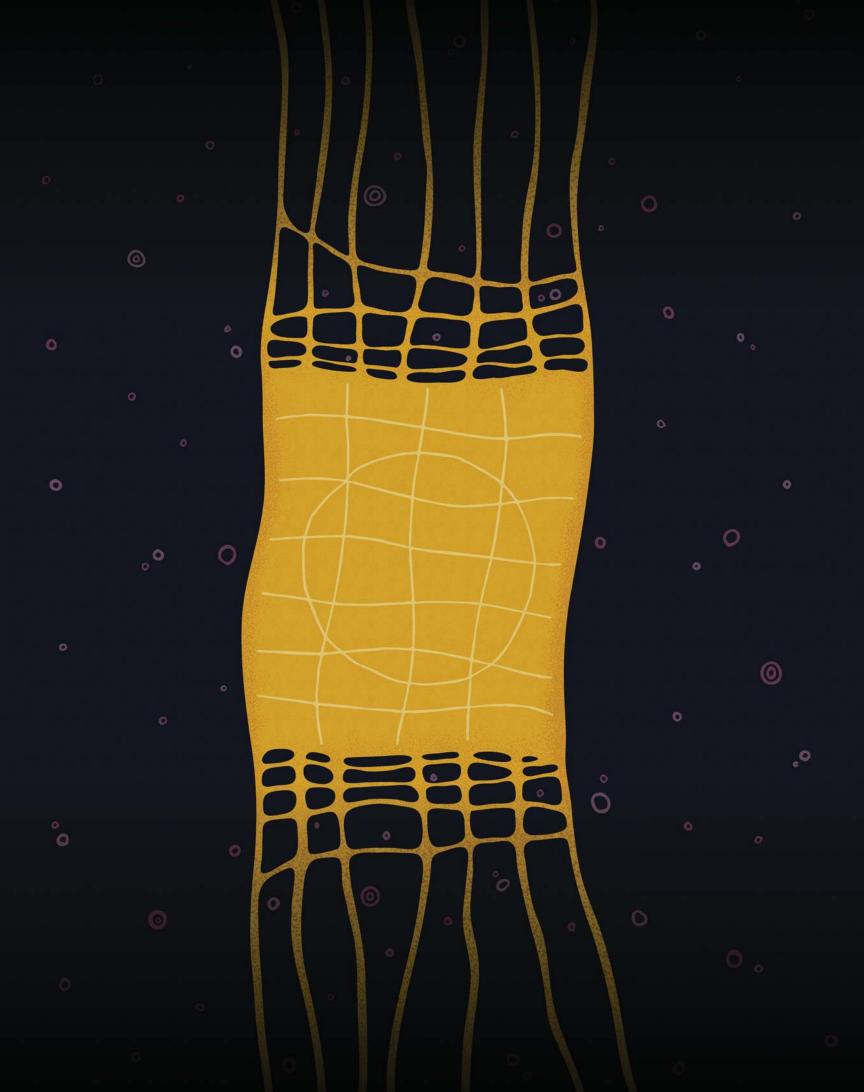
Based on Parker's analysis, participants will be able to apply the findings to modify their behaviour. This new method of looking at data could provide a clearer view of individual health and provide personalized guidance.

"This is a shift in how we think about data and its relationship to health and performance," Parker says. "What time of day should you go to bed? When should you work out? What lifestyle choices should you make to optimize your performance?

"We could use this information for illness prevention and to improve outcomes in concentration, productivity and fitness," he says. "Through this data, we could see trends in how lifestyle choices today will benefit our health and wellness tomorrow." M—Blake Eligh

"What time of day should you go to bed? When should you work out? What choices should you make to optimize performance?"





KAIROS Blanket Exercise

Reflections and reconciliation through education and understanding

A personal essay by Ron Wener Illustration by Mariah Meawasige

rowing up in the 70s and 80s, my exposure to Indigenous history was extremely limited and biased. I learned many stereotypes about "Indian" people and efforts to "civilize the natives" yet there was no discussion of the horrific experiences suffered by Indigenous peoples. As I've learned more about this history, I have felt uneducated, guilty and ashamed. While I've made some progress in overcoming my lack of knowledge and insight, I know I still have much to learn.

I was excited to participate in the KAIROS Blanket Exercise at the Cannexus National Career Development Conference this past winter. Described as "an interactive learning experience that builds awareness and understanding of our shared history as Indigenous and non-Indigenous peoples in Canada," the exercise has participants literally walk through history from pre-contact to treaty-making, colonization and resistance. The 90-minute session was a perspective-changing experience for me.

The exercise brought together 70 people, each standing on connecting blankets representing the traditional lands in Canada. The facilitators read scrolls that described events like treaties, diseases, laws and residential schools. According to the scroll's contents, participants were removed from the blankets to represent being displaced or dying. Watching participants leave the blankets due to colonization or disease was difficult. We could see the Indigenous population and identity decreasing before our eyes. The blankets became smaller, too, representing the colonization of what had been traditional Indigenous lands.

About the artist

Toronto-based illustrator **Mariah Meawasige** drew upon her Anishinaabe and settler heritage to create an image that references the physical and symbolic structure of wampum belts and the work of KAIROS participants to weave a new narrative together. "My concept visualizes the unravelling of one end and the creation of another, the creation of both, or the unravelling of both ends," she says. "The strands represent continuous process of (un)learning."

Some scrolls described residential schools. While I have read about residential schools, this part of the exercise was the most transformative for me. I have difficulty describing the experience of hearing the stories of children being forcibly removed from their families to suffer abuse and loss of identity.

My role was to represent what happened to an Indigenous person who chose to work in certain professions. As a lawyer, I was no longer covered by the *Indian Act* and couldn't return to my community. At the same time, I was considered an outsider in Canadian society and was placed between the blankets to represent not belonging anywhere. I had an incomplete identity. It was difficult to imagine what that would be like for those who experienced this in real life.

By the end of the exercise, I was overcome with emotion. How could settlers treat any human being the way we have treated Indigenous peoples? The facilitators explained that the purpose of this exercise was not to make us feel guilty or angry, but to help us learn more about the Indigenous experience. They stressed the need for us to continue to educate ourselves and focus on making progress.

The workshop ended with a talking circle where we reflected on what the experience meant. There was not a dry eye in the room. Many participants connected this experience with situations in their own lives. When it was my turn, I was so overwhelmed that I couldn't speak.

We were fortunate to have a number of Indigenous participants who shared their own powerful insights. It was difficult to hear their perspectives, but so important. I learned about the urgency of the work we all need to do as a nation. In the months since the exercise, I have read the full Truth and Reconciliation Commission report and am looking for opportunities to continue my education. I hope that I can do my part by learning, listening and supporting the efforts of the TRC and Indigenous communities.

I've also shared this experience extensively with my colleagues. Campus Elder Cat Criger will be bringing the KAIROS Blanket Exercise to UTM in the future—something that I believe will help build more understanding within our community. I'm fortunate to be in a workplace that acknowledges that we have a lot to learn, works to embrace diversity and continues to seek ways to deepen our knowledge about different perspectives. M

RON WENER IS AN EMPLOYMENT STRATEGIST WITH UTM'S CAREER CENTRE. THIS ARTICLE ORIGINALLY APPEARED IN THE SPRING/SUMMER 2018 ISSUE OF CAREERING MAGAZINE, AN OFFICIAL PUBLICATION OF CERIC. —CERIC.CA



ommerce students<mark> Nafiu Mohammed</mark> and

Stephen Ayeni aunched Afrocart in 2017, an e-commerce site specializing in non-perishable goods from Nigeria and other African countries, out of a very basic premise. "It's very hard for Africans to get access to these products," says Mohammed. "There are so many African diasporas around the world. Who doesn't miss home?"

Afrocart's offerings include cereals, snacks, flours, spices and other items, like a puff-puff batter dispenser used to make the popular deep-fried West African snack. Mohammed and Ayeni say most of their target market are immigrants coming to Canada from Nigeria, Ghana, Ethiopia, South Africa and Kenya. Each country has its own distinct

cultural foods and spices. "Those usually can't be sourced at convenience stores," Mohammed says.

After connecting to a supplier in Toronto, vetting items, and figuring out their inventory, Mohammed and Ayeni also personally handle local deliveries in the greater Toronto area, which is estimated to be home to 60 per cent of Canada's expat African population. "We want to maximize the happiness of the customer when they receive the products," Ayeni says, and it's also an opportunity to get direct feedback about the website. "They know they can't get this food anywhere else and they love how convenient it is."



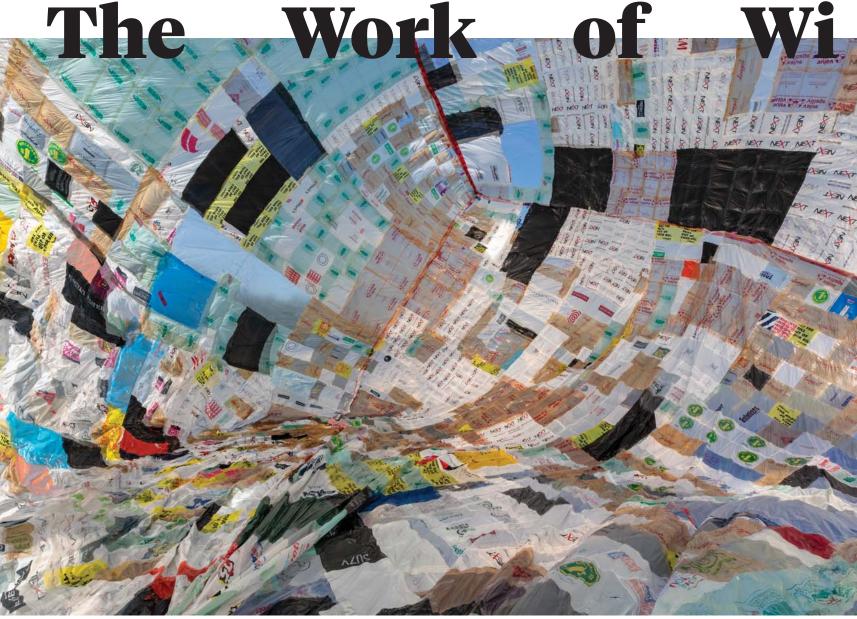
Afrocart's sales and customer base have consistently increased every month, with more than \$5,000 in revenue so far, but there's plenty of room for further growth. It is estimated there are 900,000 African immigrants in Canada and more than 1.4 million in the United States. While most of the current Afrocart customers are located in the greater Toronto area, the e-commerce site aims to serve customers across Canada and around the world, and has already fulfilled orders from France and England.

While the site initially advertised online, Afrocart is now completely reliant on word-of-mouth advertising.

Hosting online ticket sales and event listings for African student clubs and musicians also helps draw new customers to the site. "We know Africans are big on parties and turning up," Ayeni says. "The value coming back to us is probably times 100," Mohammed says.

As for the future, Ayeni and Mohammed anticipate requests for next-day deliveries will rise during the winter months. They also want to expand into perishables like fresh chicken and fish, and are considering opening a retail store. "Like a Walmart, where Africans can just walk in and feel comfortable buying what they want," Mohammed says.

"Food is such a big part of our culture," Ayeni says. "My idea is this can touch every single African," Mohammed says. **M**



Museo Aero Solar, 2018.

Mississauga's first major contemporary art festival took over the city's Southdown industrial lands for 10 days in September. Presented by UTM's Blackwood Gallery and the City of Mississauga, *The Work of Wind: Air, Land, Sea* featured works by 13 Canadian and international artists exploring climate change, environmental crisis and resilience. Visitors to the event followed a 5.5-km trail to view installations and participate in live performances, talks and workshops.

Visit workofwind.ca for more about the works and artists.







Today in the news more black and brown bodies traumatized the soil is toxic the air is poison, Christina Battle, 2018.

: Air, Land, Sea

Photography by Toni Hafkenscheid



The House Sets the North, Xiaojing Yan, 2018.



Agamiing - Niwaabaandaan miinawaa Nimiwkendaan // At the Lake - I see and I remember, Dylan Miner, 2018.







Hydra, Ed Pien, 2018.

"Climate change is real and it is happening, but we are often faced with a sense of powerlessness in confronting it," says Blackwood Gallery director and curator **Christine Shaw** of the Department of Visual Studies. "Contemporary art offers ways to see, narrate, respond and come to terms with the realities of climate change, and to harness art's power to address the urgent issues of our time." **M**



Liberation of the Chinook Wind, Tania Willard, 2018.





Shore Lunch, Lisa Myers, 2018.



Spring Bloom in the Marginal Ice Zone: From the Barents Sea to Lake Ontario, Jana Winderen, 2018.

Harnessing art's power to address the urgent issues of our time

We Who Spin Around You, Eduardo Navarro, 2018.



The Work of Wind: Air, Land, Sea is presented by the Blackwood Gallery, University of Toronto Mississauga in partnership with the City of Mississauga.







This is one of the 200 exceptional projects funded in part through the Canada Council for the Arts' New Chapter program. With this \$35M investment, the Council supports the creation and sharing of the arts in communities across Canada.





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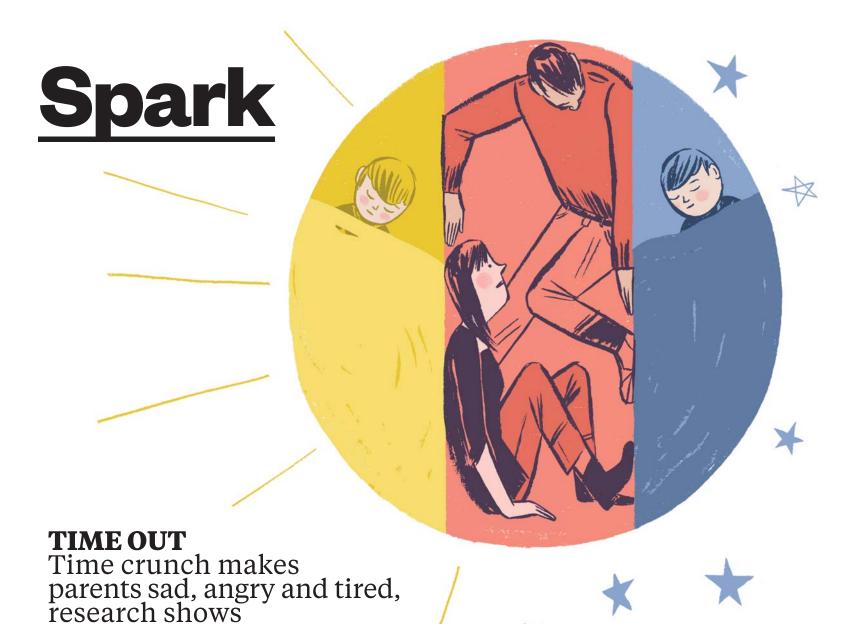
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The Work of Wind book series is published in partnership with K. Verlag.





As the daughter of a single, working mom in the 1970s and as a mother of three herself, sociology professor Melissa Milkie has long been fascinated by the dual roles of women at home and in the workplace. "We're in an interesting moment in history," says Milkie.

"We've seen mothers working more and facing increased pressure in the labour force, but also, surprisingly, an increase in the time they spend with their children."

Fathers are also spending more time with their kids than in previous decades. However, recent data shows that both mothers and fathers feel they aren't spending *enough* time with their children and, according to Milkie's research, it's stressing them out.

Part of this perceived time crunch comes from longer work hours and a lack of schedule control, she says. "There's a lot of pressure on parents. We talk about this fantasy of balance, but I just don't think it's working for most people."

To delve deeper into this work-life balance issue, Milkie added supplementary questions, focused on time spent with children and parental health, to the 2011 *Canadian Work, Stress, and Health Study*. More than 2,000 working parents told the UTM researchers that the time crunch affects them physically and emotionally. They felt distressed and angry, and had trouble sleeping.

"There simply aren't enough community or workplace supports for parents," Milkie says, adding that shorter work hours and increased employee control over schedules could help to alleviate the time-crunch strain. "We need to look at workplace and government policies in order to improve people's ability to care for the next generation and be meaningful employees at the same time. We'd have healthier employees and a stronger society if we better supported parents who are being pulled in multiple directions."

Milkie has led several studies on the experiences of family life, focused on parenting strains, work-family conflicts and the related impacts on health. Her recent study is one of the first to examine perceived time deficits with children and parental wellbeing — effects she's noticed even in her own life. "I'm fortunate to be in a privileged space with lots of flexibility and a good income and I have an involved partner, but even then it's never easy," she says. "It takes a lot of physical and emotional energy to make things work."

- Sydney Loney



"Make America great again." How did these four words—or the acronym "MAGA"—become such a powerful rallying cry for supporters of U.S. President Donald Trump?

It's a typical political slogan—ambiguous, positive-sounding and broadly interpretable—but it's powerful influence comes less from the actual words, and more from how it has been deployed through social media and advertising using an increasingly powerful marketing technique known as psychological micro-targeting.

Psychological targeting became part of a scandal this past year, when news broke about the company Cambridge Analytica aiding the Trump campaign using psychological data about millions of Facebook users that the company had acquired improperly. Trump's campaign team leveraged that data to customize the positioning of their slogan to target specific psychological profiles.

"It's a perfect slogan in some ways because it is vague enough that almost everyone can get behind the idea of making things better," says Jacob Hirsh, an assistant professor in the Department of Management.

Political campaigners emphasized different themes to different voters based on their psychological profiles. Thanks to microtargeting, MAGA became a jobs-and-economy message for some, and an anti-immigrant message for others. Others saw it as an antiabortion message, and still others embraced it as an endorsement of white supremacy.

While Cambridge Analytica's underhandedness grabbed the headlines, Hirsh says companies routinely acquire mountains of psychological data through other methods. Every time a person clicks a web link or sends an electronic message, that information is tracked, logged, and analyzed.

"We're so ingrained in this way of life where every website we visit has 15 cookies, each of which creates a behavioural profile of us," Hirsh says. "Information about everything we do online is being put into giant databases which algorithmic decision models use to learn about how to handle us as digital people."

Hirsh has run experiments to test the power of psychological micro-targeting. In one, he created five sets of marketing materials for the same cellphone product, each customized for a different personality type.

"The underlying value of the product is reframed to be in alignment with the disposition of the person," he says. For extroverts, the most powerful messages were about how the phone would help them stand out. Agreeable people, meanwhile, were swayed by messages about staying connected to friends and family. As companies get better at targeting the right message to the right personality, Hirsh's experiments demonstrate the effectiveness of this technique.

It becomes more and more possible for micro-targeters to hit you with the perfect message right at the moment when you will be most receptive.

On the positive side, companies that know you so well can recommend books, movies, and products that you genuinely want and enjoy.

"But if you're at all concerned about the political context or the dystopian potential of mass surveillance and social influence technologies, then it's a potentially dangerous trend," Hirsh says.

Long before psychological targeting became so powerful, Hirsh had become concerned enough about online privacy to delete his own Facebook account and minimize his social media activity. He believes that the government needs to step up and help people control what companies do with psychological data.

"Transparency laws would be the best solution," he says. "Companies should have to provide you all the data that they have about you, including psychological data. You should be able to see what your profile is, how you are being categorized by a certain company, and what are their behavioural inferences. And you should have the legal option to delete that data should you so desire."

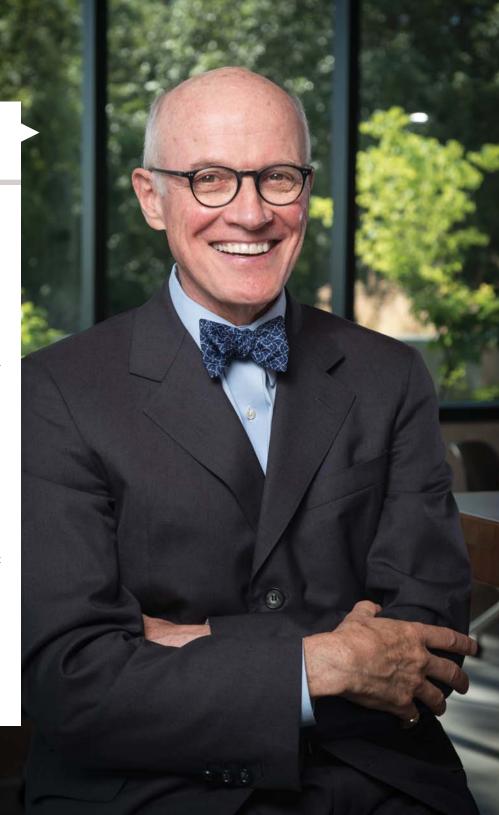
The European Union already has these kinds of laws, but Canada isn't there yet. In the meantime, he says, the most powerful line of defense is to be self-aware about your own vulnerabilities, and to pay attention to the ongoing attempts to manipulate you. - Patchen Barss

Class Notes

U of T Champion

John Switzer (BA, 1970) was a community leader and super volunteer at

UTM. A member of Erindale College's first graduating class, he played a critical role in supporting the strategic direction of UTM, and shaping U of T's tri-campus system. He passed away in April, 2018. Over his 50-year association with U of T, he served in many volunteer and advisory positions, particularly focused on governance and leadership initiatives. Wearing one of his signature bow ties, Switzer could often be found at campus events or committee meetings, including Governing Council and the University Affairs Board; and he served as UTM's first Campus Council chair in 2013. Switzer is remembered for helping the university make important connections to the wider community. "John volunteered his expertise to help build some of the important ties between UTM, the City of Mississauga and the local business community," says Professor Ulrich Krull, UTM's vice-president and principal. "John had a tremendous capacity to appreciate potential, and he was instrumental in supporting UTM to convert potential into impact." In Switzer's memory, the university has established the W. John Switzer Class of 70 Award to support students with financial need. Learn more at donate.utoronto.ca.





Write On

Kathleen Jones (BA, 1982) can now tick 'published author' off her bucket list. After majoring in English literature, the Erindale College alumna worked for three decades as an editor and technical writer before realizing her own lifelong dream of becoming a fiction writer. In April, Moonshine Cove published Jones' first novel "Love Is the Punch Line" which has earned several five-star reviews on *Goodreads*. The comic romance chronicles the midlife relationship that blooms between a washed-up comedian and a divorced businesswoman who meet at a comedy club. The Scarborough-based writer is at work on her second novel and posts about the writing on her blog, *The Quirky Writer*, kathleenjones.org.

First Class

The Class of '76 are a trailblazing bunch—they were the first commerce students to graduate from Erindale College and now, four decades later, they have rallied to establish UTM's first-ever class gift. "We wanted to do something as a group that would be meaningful and long-lasting," says alumnus Hans van Monsjou, who co-organized the initiative with former classmate Richard Zurawski. "It honours our class and puts our stamp on things." The UTM 1976 Bachelor of Commerce Class Award will support students with financial need in the commerce program at UTM. Together, the former classmates made donations totaling over \$25,000, the income of which will be matched by U of T's Boundless Promise Program, thereby doubling the value of the award. "We were the first graduating class at Erindale to come up with this idea," says van Monsjou. "Now we are throwing out the challenge to the commerce classes of '77, '78 and '79 and other disciplines who might want to jump on board. It's a great way to give back."

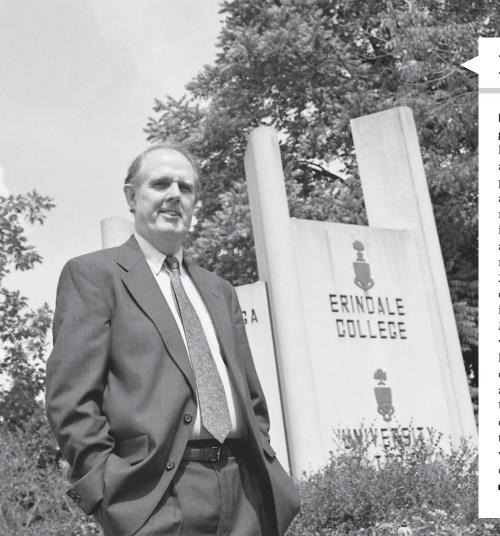


Shift Disturber

Alumnus Fahad Tariq (BComm, 2010) finds opportunity in unusual places. "I wanted to find a way to help people in developing countries," he says. "Animal waste is an untapped resource." In 2017, Tariq founded Shift, a non-profit organization that builds bio-gas domes in rural Pakistan. Inside the concrete domes, bacteria transform waste into free, clean-burning gas, replacing firewood as the main energy source for heating and cooking. With \$26,000 in crowdfunding, Shift has completed seven projects in Pakistan with another three underway. To date, the project has repurposed 500,000 kg of animal waste, providing fuel to about 500 people. The team hopes to have 50 energy domes in operation by 2020, and plans to expand into Uganda with an initiative that uses human waste.



Class Notes



Legacy of a Leader

Robert McNutt, a professor emeritus of geochemistry and former principal of UTM,

had a long and distinguished career as both an academic and administrator. Serving as principal between 1995 and 2002, he is remembered as an outstanding leader who guided plans for major transformations of the campus, including increased student enrolment, new buildings and new programs - all of these in times of fiscal restraint and uncertainty. He passed away in June, 2018. "He was known for building relationships, operating by building consensus, and was pivotal in strengthening our relationship with the City of Mississauga," remembers Professor Ulrich Krull, vice-president and principal. "He has left a lasting legacy at UTM, setting the stage on which many other projects have been built. A genuine scholar and gentleman, his loss is deeply felt by the UTM community and beyond." McNutt received degrees from the University of New Brunswick and the Massachusetts Institute of Technology, and was an expert on the applications of isotope geochemistry to the study of water and rock systems.

Stepping Up for Poetry

Spoken word artist and alumnus Wali Shah (HBA, 2018) has come a long way from the angry teen who found an outlet in poetry. As Mississauga's poet laureate, Shah now raises his voice on issues like anti-bullying and racism and in celebration of his hometown. Asking residents to finish the sentence, "I belong to Mississauga because...", Shah wove their answers into a poem that reflects the city's values and sense of belonging. "Dear Mississauga" was installed on the steps of Confederation Square at Mississauga City Hall in July.

"Dear Mississauga," Wali Shah, 2018



PHOTOS: (TOP) UTM ARCHIVES; (BOTTOM) TORI LAMBERMONT, CITY OF MISSISSAUGA



Asking the Big Questions

A new book by alumna and entrepreneur Rumeet Billan (BA, 2006; MEd 2010, PhD, 2014) is helping readers of all ages find answers to a very big question. "Who Do I Want To Become?" was illustrated by Michelle Clement and published by Page Two Books in October, 2018. In her playful and entertaining picture book, Billan tells the story of young Dylan as he mulls a question we have all asked ourselves: what do we want to be when we grow up? Dylan strikes out on a journey of discovery before realizing that it's not *what*, but *who* we are that matters the most.

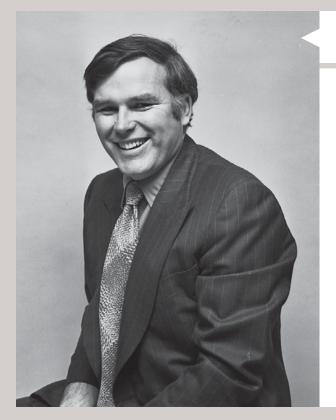
As an entrepreneur, educator and humanitarian, Billan has mulled her own answer to that question—she is the president and chief executive officer of education employment website Jobs in Education and of learning and development firm Viewpoint Leadership. "Who Do I Want To Become?" grew out of Billan's 2013 TEDx talk in Nova Scotia which was later adapted into a workshop for Ontario students. The story, which is available in English, French and Spanish, also includes downloadable parent guides and lesson plans at whodoiwanttobecome.com.



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What have you been up to since graduation? Share your milestones, awards and other updates to m.magazine@utoronto.ca and we may publish it in the next issue of *M*!



Dedicated Mentor and Friend

Friends, former students and colleagues from across the country

recently gathered to remember Michael "Mike" Lavelle, who died Oct. 3 after a brief battle with cancer. Lavelle began his career as a high school teacher and sport coach before joining Erindale College in 1971. During three decades on the campus, he served as an instructor in the Department of Religion and coach of the Erindale Warriors men's basketball team. From 1979 until his retirement in 2002, Lavelle was also director of residence, where he oversaw a major expansion of student housing and the planning of Erindale Hall, and instituted the residence don system to build social connections between students living on campus. "Mike always put students first," remembers alumnus and former residence don Frank McGrath (BA, 1986). "He had an incredible ability to connect with young people. He gave us a chance to grow, to fail and learn, and to try again." McGrath notes that Lavelle provided needed behind-the-scenes support to many. "There are countless stories of Mike helping to find a student a job or helping someone dealing with a difficult family situation," he says, noting that many former students maintained decades-long friendships with Lavelle after graduation.

Alumni Events

Discover the benefits of being a UTM alumnus! Enjoy events, experiences and keynotes delivered by UTM faculty, alumni and other leading and engaging speakers from the community, business, media, and the arts and sciences. See www.utm.utoronto.ca/alumni/events.



Learn about tea varieties and the finer points of etiquette while sampling scones and clotted cream at a traditional English high tea. 25



Alumni Ski Trip

Get ready to hit the slopes with family and friends at UTM alumni ski days scheduled throughout the winter. **WINTER 2019**



Frosty Flicks

Beat the winter blahs with other UTM alumni and families during an afternoon of activities, snacks and a screening of a family-friendly flick.

FEBRUARY 3



One Million Trees Experience

Celebrate the return of spring with other UTM alumni, friends and families at a tree planting with the City of Mississauga. Ideal for all ages. **2019**



Alumni Reunion

Save the date for U of T's annual alumni reunion weekend featuring events for guests of all ages, including lectures, the UTM Alumni Association's annual general meeting, and an outdoor movie under the stars. 29
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Send us your memories

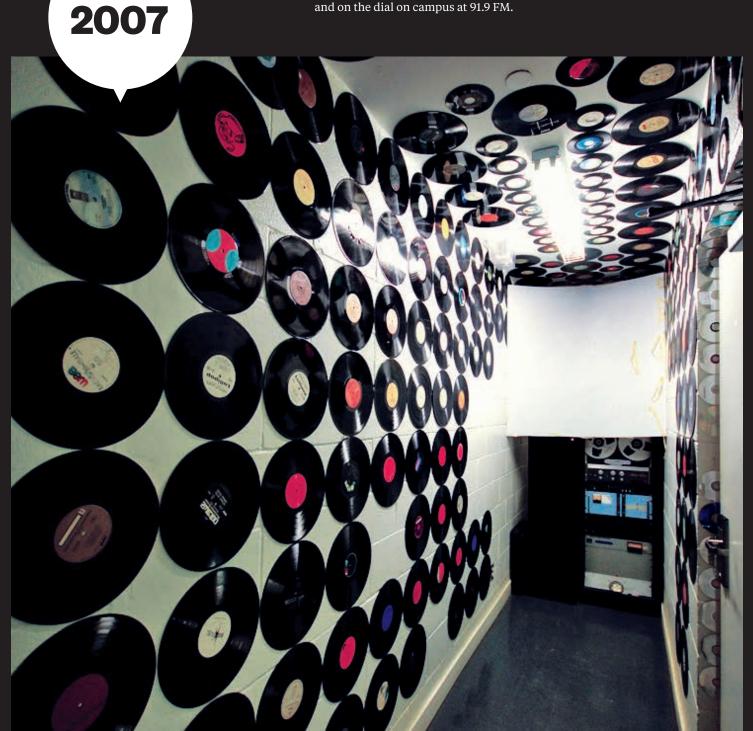
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Some of our favourite pictures of UTM have been taken by students, alumni, faculty and staff. We love to see the campus through your eyes—send your photos to m.magazine@utoronto.ca and they could be featured in the magazine or on social media!

Vault

CFRE has been on the air since 1970 when DJs first spun discs from the original attic studio in Colman House. Over the years, the student-run radio station originally known as "Canada Free Radio Erindale" has evolved from disco to indie rock, LPs to MP3s. The station gave many DJs their first broadcast break, including reporter and former host of *The NewMusic* John "J.D." Roberts and former High Commissioner of Trinidad & Tobago to Canada Robert "the Atomic Turntable" Sabga (B.Sc., 1979). The station attracted a dedicated following from all walks of campus life and sometimes even the afterlife. Former DJ J.P. Fallavollita recalls his Halloween night encounter with a ghostly fan in the station's former Crossroads studio—perhaps one wanting to hear "The Monster Mash" or the "Ghostbusters" theme?

After two years of radio silence, CFRE returned to the airwaves this fall from its current studio in the Student Centre. Stay tuned online at www.cfreradio.ca and on the dial on campus at 91.9 FM.



SAVING OUR FUTURE BY SEEING OUR PAST.

YOUR GENEROSITY MADE IT POSSIBLE.

PhD student Daniel G. Dick developed a new scientific model of marine fossils that describes ancient species by the roles they played in the environment (corals built habitats for other animals; clams filtered water) and projects how their survival or extinction shaped later ecosystems. Now he's unravelling what happened in climate catastrophes of the past, showing us how to identify the species in need of protection today.

Annual Fund donors helped advance this important work by paying Dan's travel costs, letting him prove the validity of his model against living reef systems. This is just one example of how your generosity can fuel knowledge and discovery. Together, we're building a better tomorrow.

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